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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,887	12/06/2005	Hiroshi Tada	125A 3741 PCT	1970

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EXAMINER

RINEHART, KENNETH

ART UNIT	PAPER NUMBER
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3749

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09/29/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/539,887	Applicant(s) TADA ET AL.	
	Examiner KENNETH B. RINEHART	Art Unit 3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 13-16, 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Tada et al (6,163,976). Tada et al discloses a material storage processing tank including a heating and drying chamber (1) having at its lower end a discharge port (near 24) and therein a thermal conductive heating means (5), and including a hopper chamber (22) connected to the upper end of said heating and drying chamber for storing therein a powdered or granular material to be heated and dried; and a decompression means (27) for depressurizing the inside of said material storage processing tank, wherein said thermal conductive heating means comprises an outer tube unit having a first heater (3) provided, in a tube wall and a plurality of fins (6) for conducting the heat of said first heater projected from the inside of said tube wall into the center and spaced in its circumferential direction (figs.), wherein the powdered or granular material stored in said material storage processing tank is heated and dried by said thermal conductive heating means in said heating and drying chamber while said material storage processing tank is depressurized (col. 11, lines 33-42), and wherein the powdered-or granular material stored in said hopper chamber is fed into said heating and drying chamber by gravitation accompanied by the discharge of the heated and dried powdered or granular material from said discharge port (fig. 14), said thermal conductive heating means further comprises an inner tube unit (5) having a

Art Unit: 3749

pillar body hung at the center of said outer tube unit, a second heater embedded in said pillar body, and a plurality of fins (7) for conducting the heat of said second heater, said tube wall and said fins of said outer tube unit, and said pillar body and said fins of said inner tube unit are all made of a highly heat conductive metal(col. 2, lines 42-49, col. 9, line 35), wherein said pillar body has at its lower end a rectifier whose diameter is enlarged downwardly (12), wherein a carrier gas introduction means by which a carrier gas is introduced into said storage processing tank is further provided at said material storage processing tank (29).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17, and 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tada et al (6,163,976) in view of Evans (4,294,020). Tada et al discloses a material storage processing tank including a heating and drying chamber (1) having at its lower end a discharge port (near 24)and therein a thermal conductive heating means (5), and including a hopper chamber (22) connected to the upper end of said heating and drying chamber for storing therein a .powdered or granular material to be heated and dried; and a decompression means (27) for depressurizing the inside of said material storage processing tank , wherein said thermal conductive heating means comprises an outer tube unit having a first heater (3) provided, in a tube wall and a plurality of fins (6) for conducting the heat of said first heater projected from the inside of said tube wall into

Art Unit: 3749

the center and spaced in its circumferential direction (figs.), wherein the powdered or granular material stored in said material storage processing tank is heated and dried by said thermal conductive heating means in said heating and drying chamber while said material storage processing tank is depressurized (col. 11, lines 33-42), and wherein the powdered-or granular material stored in said hopper chamber is fed into said heating and drying chamber by gravitation accompanied by the discharge of the heated and dried powdered or granular material from said discharge port (fig. 14), said thermal conductive heating means further comprises an inner tube unit (5) having a pillar body hung at the center of said outer tube unit, a second heater embedded in said pillar body, and a plurality of fins (7) for conducting the heat of said second heater, said tube wall and said fins of said outer tube unit, and said pillar body and said fins of said inner tube unit are all made of a highly heat conductive metal (col. 2, lines 42-49, col. 9, line 35), wherein said pillar body has at its lower end a rectifier whose diameter is enlarged downwardly (12), wherein a carrier gas introduction means by which a carrier gas is introduced into said storage processing tank is further provided at said material storage processing tank (29). Evans teaches said hopper chamber has an opening at its upper end and an open-close cover for airtightly closing the opening, and wherein a powdered or granular material to be heated and dried is capable of being fed in said material storage processing tank by opening said open-close cover (14) for the purpose of closing the apparatus. It would have been obvious to one of ordinary skill in the art to modify Tada et al by including said hopper chamber has an opening at its upper end and an open-close cover for airtightly closing the opening, and wherein a powdered or granular material to be heated and dried is capable of being fed in said material storage processing tank by opening said open-close cover as taught by Evans for the purpose of closing the apparatus.

Claim 23, 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tada et al (6,163,976) in view of Evans (4,294,020) and JP11291289. Tada et al discloses a material storage processing tank including a heating and drying chamber (1) having at its lower end a discharge port (near 24) and therein a thermal conductive heating means (5), and including a hopper chamber (22) connected to the upper end of said heating and drying chamber for storing therein a powdered or granular material to be heated and dried; and a decompression means (27) for depressurizing the inside of said material storage processing tank, wherein said thermal conductive heating means comprises an outer tube unit having a first heater (3) provided, in a tube wall and a plurality of fins (6) for conducting the heat of said first heater projected from the inside of said tube wall into the center and spaced in its circumferential direction (figs.), wherein the powdered or granular material stored in said material storage processing tank is heated and dried by said thermal conductive heating means in said heating and drying chamber while said material storage processing tank is depressurized (col. 11, lines 33-42), and wherein the powdered-or granular material stored in said hopper chamber is fed into said heating and drying chamber by gravitation accompanied by the discharge of the heated and dried powdered or granular material from said discharge port (fig. 14), said thermal conductive heating means further comprises an inner tube unit (5) having a pillar body hung at the center of said outer tube unit, a second heater embedded in said pillar body, and a plurality of fins (7) for conducting the heat of said second heater, said tube wall and said fins of said outer tube unit, and said pillar body and said fins of said inner tube unit are all made of a highly heat conductive metal (col. 2, lines 42-49, col. 9, line 35), wherein said pillar body has at its lower end a rectifier whose diameter is enlarged downwardly (12), wherein a carrier gas introduction means by which a

Art Unit: 3749

carrier gas is introduced into said storage processing tank is further provided at said material storage processing tank (29), a feeder unit (30, 31) provided at said discharge port of said drying and storing apparatus, said feeder unit being connected with a transportation line for introducing a compressed air and a pneumatic transportation pipe connected with a ... at its distal end (figs.), wherein the powdered or granular material dried in said drying and storing apparatus is transported in said pneumatic transportation pipe by a compressed air introduced from said transportation line while being discharged from said discharge port, and then is once collected in said ..., and thereafter is fed into a processing apparatus for powdered or granular material (figs. Abstract, col. 16, lines 37-40), wherein said powdered or granular material is resin pellet and wherein said processing apparatus of powdered or granular material is a resin molding machine (figs. Abstract). JP11291289 teaches collector (26) for the purpose of providing a buffered supply of pellets. It would have been obvious to one of ordinary skill in the art to modify JP-38-18449 by including a collector, as taught by JP11291289 for the purpose of providing a buffered supply of pellets to facilitate continuous extrusion and thus reduce downtime. The applicant is merely combining prior art according to known methods to yield predictable results.

Claims 24, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tada et al (6,163,976) in view of Evans (4,294,020) as applied to claim 23 above, and further in view of Saeman (3918168). Tada et al discloses a compressed air supply line for introducing a compressed air is provided at the upper stream of said transportation line and said feeder unit (after 31), wherein said powdered or granular material is resin pellet and wherein said processing apparatus of powdered or granular material is a resin molding machine (figs. Abstract). Saeman teaches a circulation pipe, circulation line, said powdered or granular material discharged from

Art Unit: 3749

said drying and storing apparatus is pneumatically transported in said circulation pipe by a compressed air introduced from said circulation line, thereby enabling circulation into said material storage processing tank (25, col. 8, lines 55-64, col. 4, lines 47-48) for the purpose of recirculating. It would have been obvious to one of ordinary skill in the art to modify JP-38-18449 by including circulation pipe, circulation line, said powdered or granular material discharged from said drying and storing apparatus is pneumatically transported in said circulation pipe by a compressed air introduced from said circulation line, thereby enabling circulation into said material storage processing tank as taught by Saeman for the purpose of recirculating so that clumping is reduced and problems associated with extrusion stoppages alleviated. The applicant is merely combining prior art according to known methods to yield predictable results.

Claims 25, 26, 31, 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tada et al (6,163,976) in view of JP11291289. Tada et al discloses a material storage processing tank including a heating and drying chamber (1) having at its lower end a discharge port (near 24) and therein a thermal conductive heating means (5), and including a hopper chamber (22) connected to the upper end of said heating and drying chamber for storing therein a powdered or granular material to be heated and dried; and a decompression means (27) for depressurizing the inside of said material storage processing tank, wherein said thermal conductive heating means comprises an outer tube unit having a first heater (3) provided, in a tube wall and a plurality of fins (6) for conducting the heat of said first heater projected from the inside of said tube wall into the center and spaced in its circumferential direction (figs.), wherein the powdered or granular material stored in said material storage processing tank is heated and dried by said thermal

Art Unit: 3749

conductive heating means in said heating and drying chamber while said material storage processing tank is depressurized (col. 11, lines 33-42), and wherein the powdered-or granular material stored in said hopper chamber is fed into said heating and drying chamber by gravitation accompanied by the discharge of the heated and dried powdered or granular material from said discharge port (fig. 14), said thermal conductive heating means further comprises an inner tube unit (5) having a pillar body hung at the center of said outer tube unit, a second heater embedded in said pillar body, and a plurality of fins (7) for conducting the heat of said second heater, said tube wall and said fins of said outer tube unit, and said pillar body and said fins of said inner tube unit are all made of a highly heat conductive metal (col. 2, lines 42-49, col. 9, line 35), wherein said pillar body has at its lower end a rectifier whose diameter is enlarged downwardly (12), wherein a carrier gas introduction means by which a carrier gas is introduced into said storage processing tank is further provided at said material storage processing tank (29), and a feeder unit (30,31) provided at said discharge port of said drying and storing apparatus: said feeder unit being connected with a transportation line (left of 31) connecting a compressed air supply line (right of 31) for introducing a compressed air at the upper stream and a pneumatic transportation pipe (left of 24) connected with a ... at the distal end, wherein the powdered or granular material dried in said drying and storing apparatus is transported in said pneumatic transportation pipe by a compressed air introduced from said transportation line while being discharged from said discharge port, and then is once collected in said ..., and thereafter is fed into a processing apparatus for powdered or granular material, and wherein said carrier gas introduction means has a purge line which is diverged from said compressed air supply line and is connected around said discharge port (around 29b), said powdered or granular material is resin pellet and wherein said

Art Unit: 3749

processing apparatus of powdered or granular material is a resin molding machine (figs.

Abstract),. JP11291289 teaches collector (26) for the purpose of providing a buffered supply of pellets. It would have been obvious to one of ordinary skill in the art to modify JP-38-18449 by including a collector, as taught by JP11291289 for the purpose of providing a buffered supply of pellets to facilitate continuous extrusion and thus reduce downtime. The applicant is merely combining prior art according to known methods to yield predictable results.

Claims 27, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tada et al (6,163,976) in view of Evans (4,294,020) as applied to claim 21 above, and further in view of JP11291289. Tada discloses and a feeder unit (30,31) provided at said discharge port of said drying and storing apparatus: said feeder unit being connected with a transportation line (left of 31) connecting a compressed air supply line (right of 31) for introducing a compressed air at the upper stream and a pneumatic transportation pipe (left of 24) connected with a ... at the distal end, wherein the powdered or granular material dried in said drying and storing apparatus is transported in said pneumatic transportation pipe by a compressed air introduced from said transportation line while being discharged from said discharge port, and then is once collected in said ..., and thereafter is fed into a processing apparatus for powdered or granular material, and wherein said carrier gas introduction means has a purge line which is diverged from said compressed air supply line and is connected around said discharge port (around 29b), wherein said powdered or granular material is resin pellet and wherein said processing apparatus of powdered or granular material is a resin molding machine (figs. Abstract). JP11291289 teaches collector (26) for the purpose of providing a buffered supply of pellets. It would have been obvious to one of ordinary skill in the art to modify JP-38-18449 by including a collector, as

Art Unit: 3749

taught by JP11291289 for the purpose of providing a buffered supply of pellets to facilitate continuous extrusion and thus reduce downtime. The applicant is merely combining prior art according to known methods to yield predictable results.

Claims 18, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tada et al (6,163,976) in view of Wear (4,347,670). Tada et al discloses a material storage processing tank including a heating and drying chamber (1) having at its lower end a discharge port (near 24) and therein a thermal conductive heating means (5), and including a hopper chamber (22) connected to the upper end of said heating and drying chamber for storing therein a powdered or granular material to be heated and dried; and a decompression means (27) for depressurizing the inside of said material storage processing tank, wherein said thermal conductive heating means comprises an outer tube unit having a first heater (3) provided, in a tube wall and a plurality of fins (6) for conducting the heat of said first heater projected from the inside of said tube wall into the center and spaced in its circumferential direction (figs.), wherein the powdered or granular material stored in said material storage processing tank is heated and dried by said thermal conductive heating means in said heating and drying chamber while said material storage processing tank is depressurized (col. 11, lines 33-42), and wherein the powdered-or granular material stored in said hopper chamber is fed into said heating and drying chamber by gravitation accompanied by the discharge of the heated and dried powdered or granular material from said discharge port (fig. 14), said thermal conductive heating means further comprises an inner tube unit (5) having a pillar body hung at the center of said outer tube unit, a second heater embedded in said pillar body, and a plurality of fins (7) for conducting the heat of said second heater, said tube wall and said fins of said outer tube unit, and said pillar body and said fins of said inner tube unit are all

Art Unit: 3749

made of a highly heat conductive metal(col. 2, lines 42-49, col. 9, line 35), wherein said pillar body has at its lower end a rectifier whose diameter is enlarged downwardly (12), wherein a carrier gas introduction means by which a carrier gas is introduced into said storage processing tank is further provided at said material storage processing tank (29). Wear teaches a charge hopper and discharge valve (26) for the purpose of supplying feed. It would have been obvious to one of ordinary skill in the art to modify Tada et al by including a charge hopper and discharge valve as taught by Wear for the purpose of supplying feed. The applicant is merely combining prior art according to known methods to yield predictable results.

Claims 28, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tada et al (6,163,976) in view of Wear (4,347,670) as applied to claim 22 above, and further in view of JP11291289. Tada discloses a feeder unit (30,31) provided at said discharge port of said drying and storing apparatus: said feeder unit being connected with a transportation line (left of 31) connecting a compressed air supply line (right of 31) for introducing a compressed air at the upper stream and a pneumatic transportation pipe (left of 24) connected with a ... at the distal end, wherein the powdered or granular material dried in said drying and storing apparatus is transported in said pneumatic transportation pipe by a compressed air introduced from said transportation line while being discharged from said discharge port, and then is once collected in said ..., and thereafter is fed into a processing apparatus for powdered or granular material, and wherein said carrier gas introduction means has a purge line which is diverged from said compressed air supply line and is connected around said discharge port (around 29b), wherein said powdered or granular material is resin pellet and wherein said processing apparatus of powdered or granular material is a resin molding machine (figs. Abstract). JP11291289 teaches

Art Unit: 3749

collector (26) for the purpose of providing a buffered supply of pellets. It would have been obvious to one of ordinary skill in the art to modify JP-38-18449 by including a collector, as taught by JP11291289 for the purpose of providing a buffered supply of pellets to facilitate continuous extrusion and thus reduce downtime. The applicant is merely combining prior art according to known methods to yield predictable results.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication should be directed to KENNETH B. RINEHART at telephone number (571)272-4881.

/Kenneth B Rinehart/

Application/Control Number: 10/539,887

Page 13

Art Unit: 3749

Supervisory Patent Examiner, Art Unit 3749